is typically a more robust and thicker adhesive than the spacer **42**, and usually is the primary mechanism by which the system is held together, and may significantly contribute to maintaining a gap between touchscreen electrodes. The dots typically cannot fulfill the mechanical bond portion of this function, as their small total area provides minimal bond strength. The seal **45** may also be required in certain environments to control the environment within the touchscreen gap. For example, in a high humidity environment, the seal may reduce humidity ingression and avoid fogging of the gap, which would reduce transmittance and could short the touchscreen.

[**0072**] There are several limitations to the dot-style spacer design. Aside from requiring the additional seal layer, the large gaps between dots can lead to touchscreen failure if the touchscreen is permanently or temporarily deformed, such as would happen if the material was folded, bent, or kinked. Additionally, if a high voltage touchscreen is used, such as was described in the manual write system, then the electrostatic charge can cause the electrodes to become stuck to one another.

[**0073**] FIG. **14** is a front view of an alternative spacer design, which utilizes a grid instead of dots. This is possible in systems where the touchscreen is positioned behind the display, as it will not interfere optically with display viewing. In this embodiment, the spacer **42** is patterned to form a grid, which can be complementary to the patterns formed in the display electrodes. For example, it could be the perimeter of a single pixel, multiple pixels, or unrelated to the pixels. The advantage of the grid pattern is that it reduces the free span of the substrates, maintaining the touchscreen gap better than the dots when the assembly is bent or folded. Additionally, the increased surface area, and complete perimeter may make the use of a touchscreen seal unnecessary. The grid also can be sized to overcome electrostatic forces in the high voltage system.

[**0074**] FIG. **15** is an isometric view of a potential final assembly utilizing many of the features described in this specification. The display **10** and touchscreen **30** can be connected along an interconnect edge **51** to drive electronics **61**, forming a partially flexible touch-sensing display assembly **60** with an active display area **52**. The pixel writing and sensing systems can be used to allow manual or automatic entry of data, and the grid spacer can maintain touchscreen gap regardless of assembly flexing. The final assembly can be flexible in space, application, or configuration, optimizing usefulness and cost for a multitude of systems.

[**0075**] The invention has been described in detail with particular reference to certain preferred embodiments thereof, but it will be understood that variations and modifications can be effected within the spirit and scope of the invention.

PARTS LIST

[**0076**] **1** viewer

[**0077**] **2** input device

[**0078**] **10** display plane

[**0079**] **11** polymer display substrate

[**0080**] **12** glass display substrate

[**0081**] **21** active display layer

[**0082**] **22** display imaging layer

[**0083**] **23** polymer shell

[**0084**] **24** liquid crystal

[**0085**] **25** first display electrode

[**0086**] **26** second display electrode

[**0087**] **27** third display electrode

[**0088**] **28** insulating layer

[**0089**] **30** touchscreen

[**0090**] **31** first touchscreen electrode

[**0091**] **32** second touchscreen electrode

[**0092**] **33** touchscreen sensing electrodes

[**0093**] **41** first touchscreen substrate

[**0094**] **42** spacers

[**0095**] **43** air gap

[**0096**] **44** second touchscreen substrate

[**0097**] **45** touchscreen seal

[**0098**] **51** interconnect edge

[**0099**] **52** display area

[**0100**] **53** written pixel

[**0101**] **60** touch-sensing display assembly

[**0102**] **61** touch sensor and display drive electronics

1. An electrically updatable device comprising a touch sensor and a flexible display, wherein the display is between the touch sensor and a viewer, and wherein the display comprises a pressure-insensitive imaging layer of polymer-dispersed imaging material, wherein the thickness of the imaging layer is defined by the polymer.

2. The device of claim 1, comprising:

a substrate;

a first display conductive layer on the substrate;

the pressure-insensitive imaging layer on the first display conductive layer;

a first touch sensor conductive layer on the imaging material;

spacers on the first touch sensor conductive layer; and

a second touch sensor conductive layer on the spacers.

3. The device of claim 2, further comprising a second display conductive layer and an insulating layer between the imaging material and the first touch sensor conductive layer.

4. The device of claim 2, further comprising a second substrate on the second touch sensor conductive layer.

5. The device of claim 1, wherein the display comprises multiple, discrete displays.

6. The device of claim 1, comprising more than one touch sensor.

7. The device of claim 1, wherein the display and touch sensor are integral.